

male often holds another female. Immediate dissection and histological studies by fixation and microscopic examination after copulation revealed that female's uterus and vaginal canal were filled with sperms.

The male does not pay any attention to the rival bats during copulation. Males were observed fighting with each other, squeaking and showing their teeth to opponents. The female was passive.

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2. FIELD OBSERVATIONS ON THE HANUMAN LANGUR

Some 20 hours of observations (mostly before noon) were made on langurs (*Presbytis entellus*) of the Mudumalai Wildlife Sanctuary (Tamilnadu) during February and March 12, 1978. The Sanctuary is situated at an altitude of 885 m on the way of Mysore-Ooty road and is 95 km from the Mysore. The forest is moist-deciduous with 'Teak', *Tectona grandis* as the dominant species.

There were five groups of the langur in an area of about 2 km². Two groups were multi-male-bisexual and three groups were unimale-bisexual type. There was no all-male group. The composition of the groups as given in Table-1 reveals that adult sex ratio was male 1:6 females; adult female to infants (new born) ratio was female 1:0.47 infants. The age-classification of the individuals followed is

TABLE 1
GROUP COMPOSITION OF THE HANUMAN LANGUR

Group	Total	Adult males	Adult females	Subadults and Juveniles	Infant-2	Infant-1
1. Mudum-B	18	1	10	2	0	5
2. Mudum-E	17	1	9	3	2	2
3. Mudum-H	21	1	8	4	4	3
4. Mudum-S	22	3	9	2	2	6
5. Mudum-L	28	2	12	4	3	7
Total	106	8	48	15	11	23
Mean	21	1.6	9.6	3	2.2	4.6
Range	17-28	1-3	8-12	2-4	0-4	2-7

according to Jay (1965).

The mean group size is similar to size recorded by Jay (1965), 18-25 in forests of northern and central India; Vogel (1977), 23.5 in Bhimtal, while it was larger (34 for bisexual groups and 18.5 for all male groups) in open areas of Western Rajasthan (Mohnot *et al.*, in press). There was no apparent interaction among the adult males of the multi-male bisexual groups and also between the two neighbouring groups.

Langurs are purely phytophagus and eat leaves, flowers, buds, fruits, seeds and resin of some 30 plant species (to be identified). Some of the common food plants were *Anogeissus latifolia*, *Butea monosperma*, *Salmalia malabarica*, *Dalbergia sissoo*, *Schleichera trijuga*, *Mangifera indica*, *Terminalia chebula* etc.

The bonnet monkey, *Macaca radiata* co-exists freely with the langurs and almost use the same plants for feeding and roosting. The langur avoids the bonnet macaques but hit out,

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whenever they are disturbed by the macaques.

The langurs are afraid of Pie dogs and give alarm barks and climb trees, whenever they see dogs approaching them. On 6th March (9.05 a.m.) a pack of 6 pie dogs chased a langur group which was crossing the road. The leader of the langur group threatened the dogs but was bitten on his right ear.

Langurs were seen in an association with Chital (*Axis axis*) in the Bandipur Tiger Reserve, adjacent to Mudumalai. Both species were noted together or Chitals fed under the same tree on which langurs were feeding. Occasionally langurs were seen sitting on the ground near browsing chital. On 5th March (6.40—6.52 p.m.) we saw langurs and chitals giving repeated alarm calls together, probably there was a common predator (?).

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